

REPLACEMENT  
AS A RESULT OF  
REVERSE  
TRANSCRIPTION  
OF VECTOR RNA

IRRELEVANT SEQUENCE  
REPLACEMENT  
MUTATION OF  
ENHANCER AND  
PROMOTER

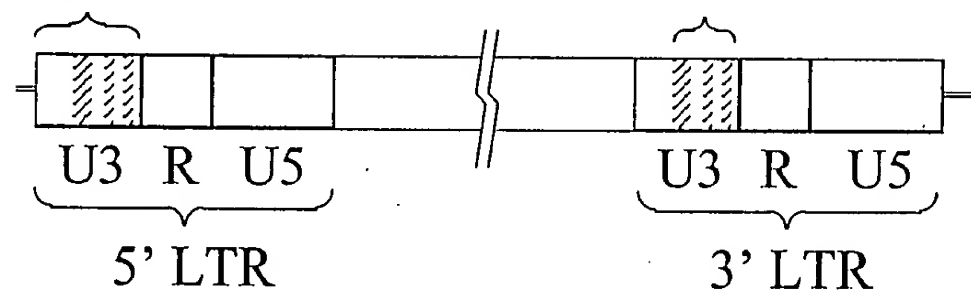


Figure 1

03046840-032450

Wild type 3' LTR sequence:

1 GAACAGATGG AACAGCTGAA TATGGGCCAA ACAGGATATC TGTGG TAAGC  
51 AGTTCC TGCC CCGGCTCAGG GCCAAGAACA GATGGAACAG CTGAATATGG  
101 GCCAAACAGG ATATCTGTGG TAAGCAGTTC CTGCCCCGGC TCAGGGCCAA  
151 GAACAGATGG TCCCCAGATG CGGTCCAGCC CTCAGCAGTT TCTAGAGAAC  
201 CATCAGATGT TTCCAGGGTG CCCCAAGGAC CTGAAATGAC CCTGTGCCTT  
251 ATTTGAACTA ACCAATCAGT TCGCTTCTCG CTTCTGTTCG CGCGCTTCTG  
301 CTCCCCGAGC TCAATAAAA

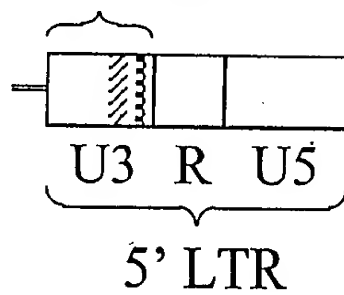
Corresponding modified 3' LTR sequence from pENZ1  
(modified sequences in bold italics):

1 **ACGCTTGATC** **CGGCTACCTG** **CCCATTGAC** **CACCAAGCGA** **AACATCGCAT**  
51 **CGAGCGAGCA** **CGTACTCGGA** **TGGAAGCCGG** **TCTTGTCCAT** **CAGGATGATC**  
101 **TGGACGAAGA** **GCATCAGGGG** **CTCGCGCCAG** **CCGAACTGTT** **CGCCAGGCTC**  
151 **AAGGCGCGCA** **TGCCCCGACGG** **CGAGGATCTC** **GTCTGTGACTT** **TCTAGAGAAC**  
201 CATCAGATGT TTCCAGGGTG CCCCAAGGAC CTGAAATGAC CCTGTGCCTT  
251 ATTTGAACTA ACCGGTCAGT TCGCTTCTCG CTTCTGTTCG CGCGCTTCTG  
301 CTCCCCGAGC **TCAGCTGCG**

Figure 2

03046840.032490

REPLACEMENT  
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IRRELEVANT  
SEQUENCE  
REPLACEMENT  
MUTATION OF  
ENHANCER

H2A614 STEM LOOP  
REPLACEMENT  
MUTATION OF  
PROMOTER

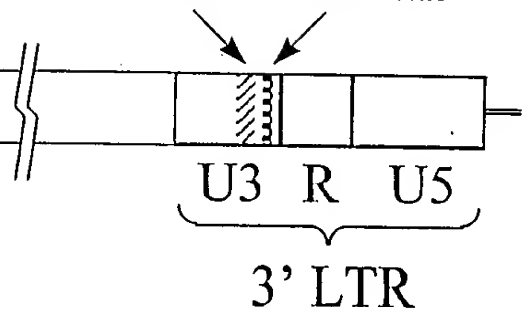


Figure 3

0001640-03343

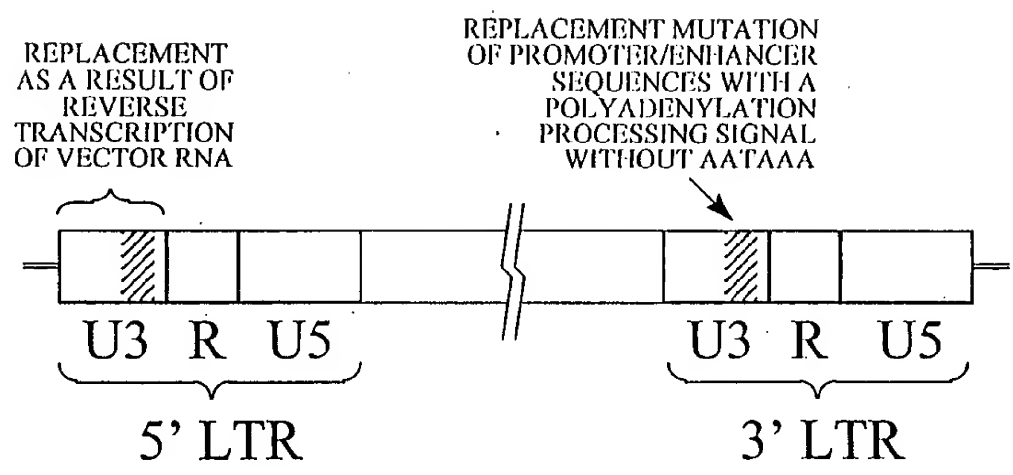


Figure 4

001220 01201000

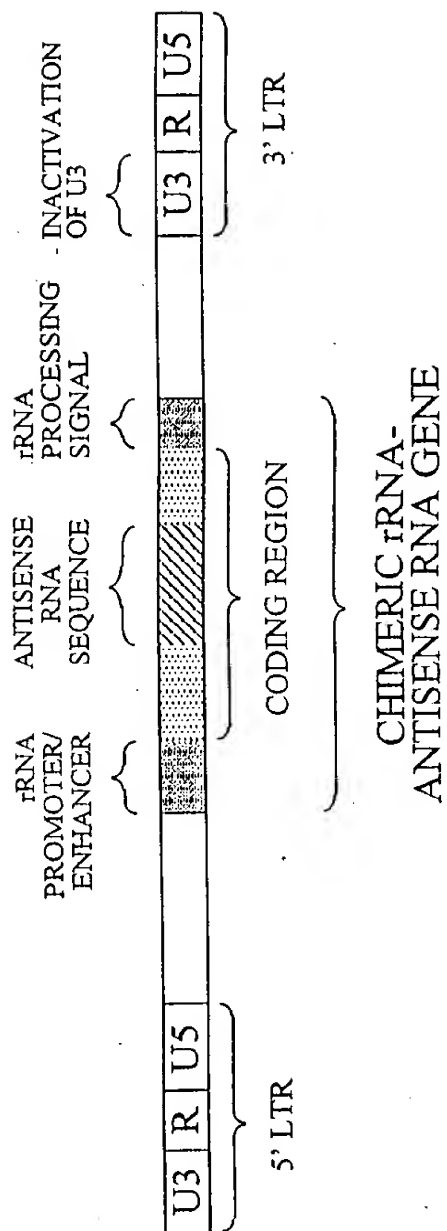


Figure 5

954250.01891060

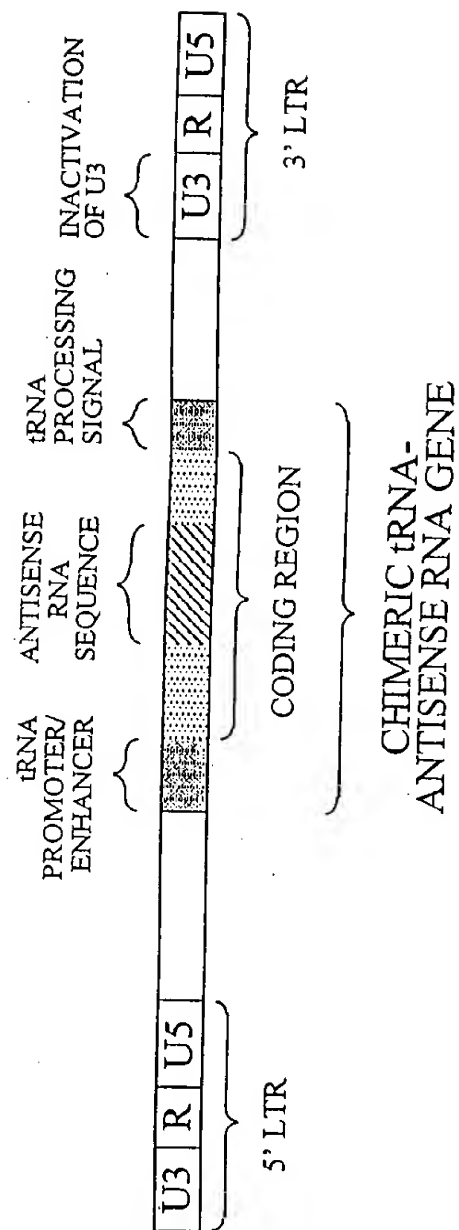


Figure 6

04300-00000000

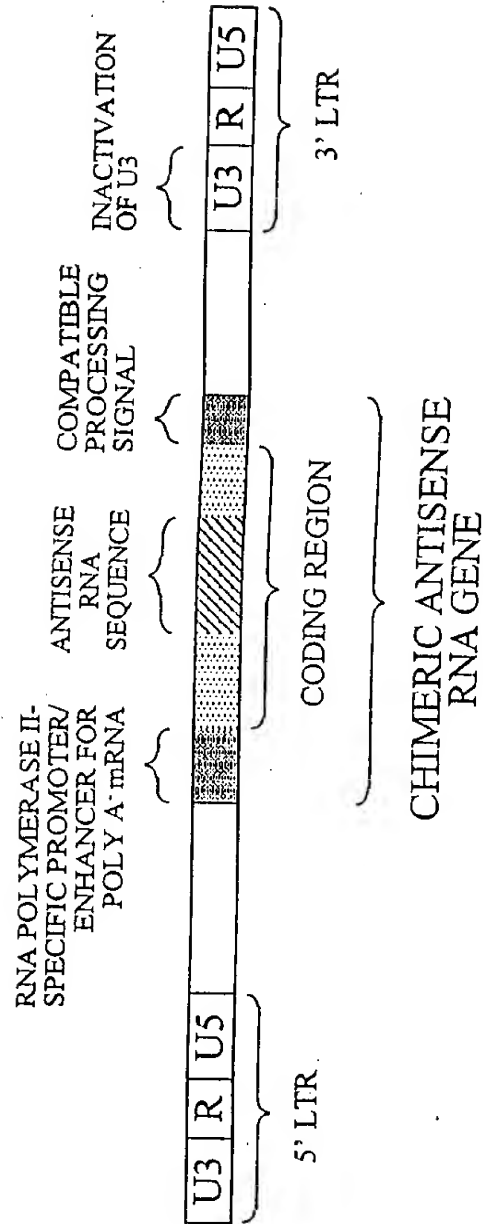


Figure 7

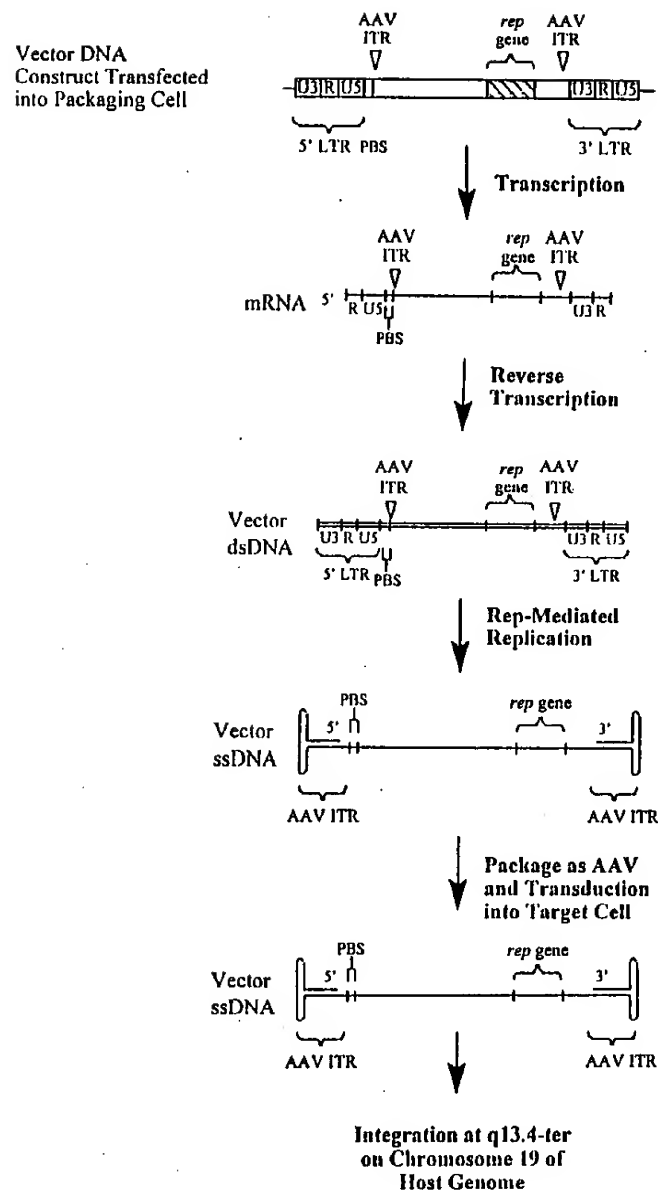


Figure 8



00046340.032496

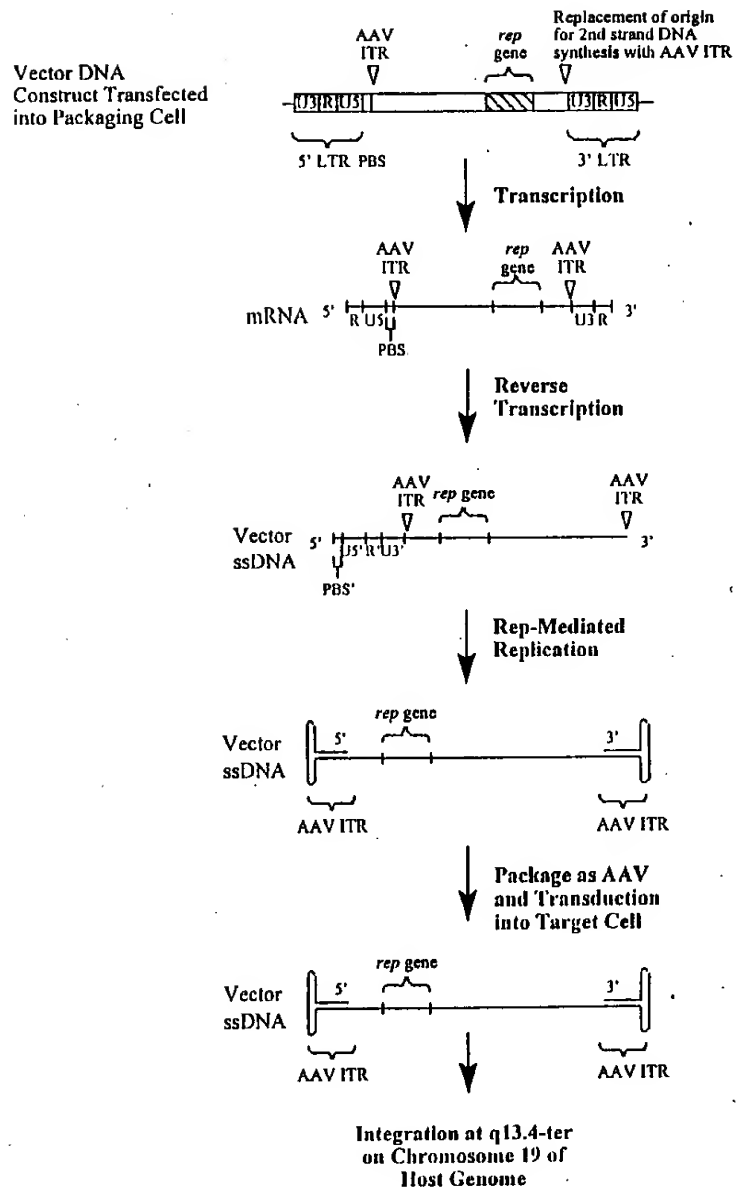


Figure 9

Vector DNA Construct  
Transfected into  
Packaging Cell

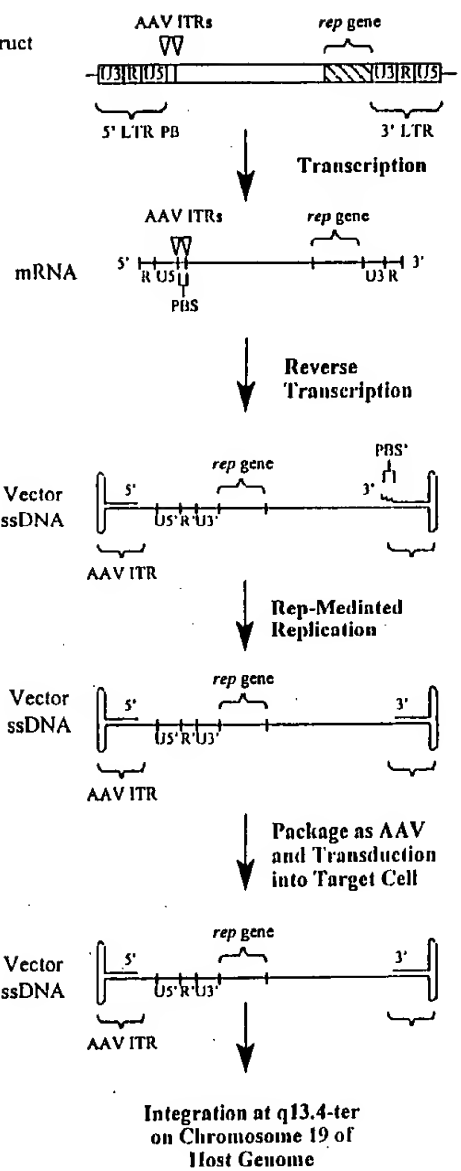


Figure 10

03041610-0324790

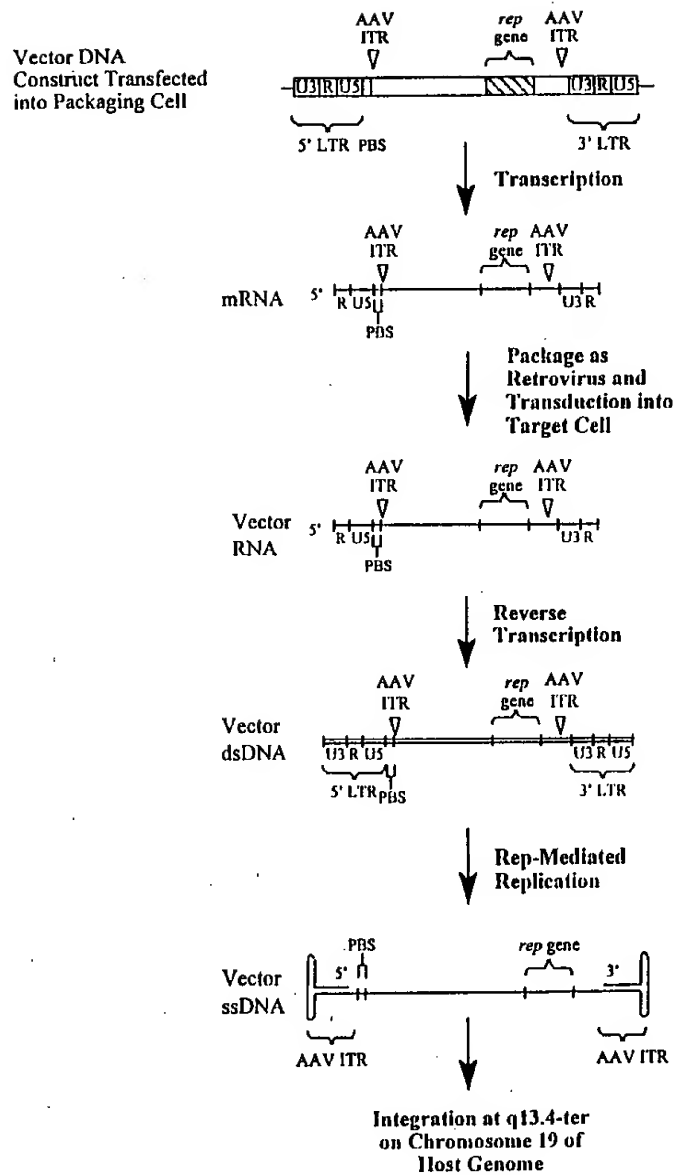


Figure 11

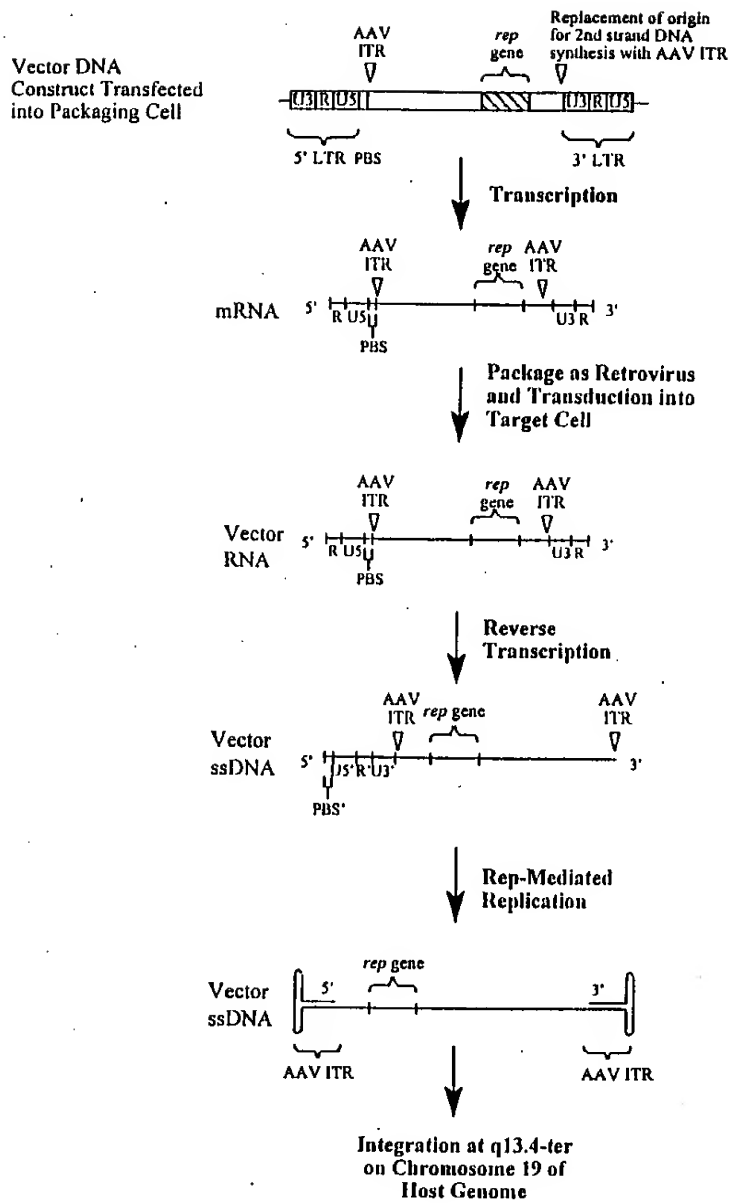
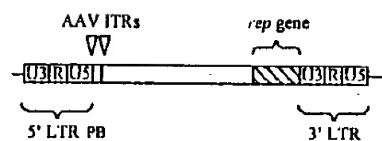
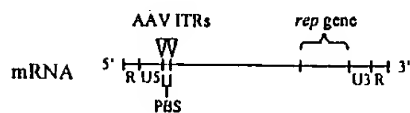


Figure 12

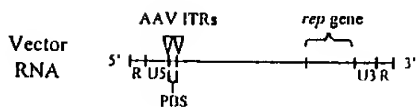
Vector DNA Construct  
Transfected into  
Packaging Cell



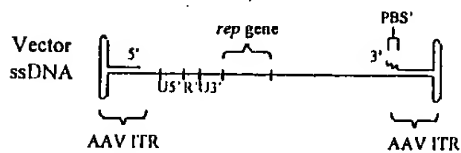
Transcription



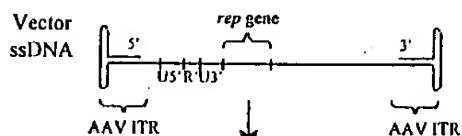
Package as Retrovirus  
and Transduction into  
Target Cell



Reverse  
Transcription



Rep-Mediated  
Replication



Integration at q13.4-ter  
on Chromosome 19 of  
Host Genome

Figure 13